

### **REMARKS**

This Application has been carefully reviewed in light of the first Office Action mailed March 1, 2007. To clarify various aspects of inventive subject matter and in some cases to remove unnecessary limitations, Applicant amends Claims 1-29. Applicant also introduces new Claims 46-51 and cancels Claims 40-45 without prejudice or disclaimer. To advance prosecution of this Application, Applicant has responded to each notation by the Examiner. Applicant submits that all of the original claims are allowable over the cited references. Applicant respectfully requests reconsideration and favorable action in this case.

#### **Objection to Drawings**

The Examiner objects to the drawings because they are not formal drawings. Applicant is filing concurrently herewith seven sheets of formal drawings. They replace the informal drawings originally filed.

#### **Objection to Specification**

The Examiner objects to the abstract and title because they do not adequately describe the invention claimed. Applicant has amended the abstract and title. Applicant respectfully requests reconsideration and favorable action in this case.

#### **Claim Rejection 35 U.S.C. § 103**

The Examiner rejects Claims 1-39 under 35 U.S.C. § 103(a) as being unpatentable over U.S. 6,885,683 issued to Fermann et al. ("*Fermann*") in view of U.S. Patent 6,407,853 issued to Samson et al. ("*Samson*"). Applicant respectfully traverses these claim rejections for the reasons discussed below.

Applicant provides a reminder that to defeat a patent under 35 U.S.C. § 103, "the prior art reference must teach, disclose, or suggest all the claim limitations." *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991); M.P.E.P. § 706.02(j). Applicant respectfully submit that *Fermann*, *Samson*, and/or knowledge supposedly generally available to those of ordinary skill in the art at the time of the invention, taken alone or in combination, fail to teach or suggest, either expressly or inherently, a number of elements of independent Claims 1 and 29.

**A. The Proposed *Fermann-Samson* Combination Fails to Disclose, Teach, or Suggest Each and Every Limitation Recited in Claims 1 and 29**

Applicant submits that amended Claim 1 is patentable over *Fermann* in view of *Samson*. Among other features, amended Claim 1 recites, in part, that “a Raman wavelength shifter coupled to the gain fiber, the Raman wavelength shifter operable to wavelength shift based at least in part on a Raman effect, at least a portion of the Raman wavelength shifter comprising an intermediate waveguide structure coupled to a second waveguide structure capable of wavelength shifting at least one wavelength of the first optical signal to an intermediate wavelength in the intermediate waveguide structure and then a longer signal wavelength in the second waveguide structure.” Amended Claim 1 also recites, in part, that “at least a portion of the intermediate wavelength is greater than the one wavelength of the first optical signal and wherein at least a portion of the longer signal wavelength is greater than the intermediate wavelength.”

*Fermann* fails to teach or suggest a number of elements of amended Claim 1. For example, nowhere does *Fermann* contemplate a Raman wavelength shifter coupled to the gain fiber, the Raman wavelength shifter operable to wavelength shift based at least in part on a Raman effect, at least a portion of the Raman wavelength shifter comprising an intermediate waveguide structure coupled to a second waveguide structure capable of wavelength shifting at least one wavelength of the first optical signal to an intermediate wavelength in the intermediate waveguide structure and then a longer signal wavelength in the second waveguide structure. Moreover, *Fermann* fails to teach or suggest that at least a portion of the intermediate wavelength is greater than the one wavelength of the first optical signal and wherein at least a portion of the longer signal wavelength is greater than the intermediate wavelength. Consequently, *Fermann* fails to teach or suggest amended Claim 1.

The *Samson* reference fails to atone for the deficiencies of *Fermann*. For example, *Samson* fails to disclose, teach, or suggest that a Raman wavelength shifter coupled to the gain fiber, the Raman wavelength shifter operable to wavelength shift based at least in part on a Raman effect, at least a portion of the Raman wavelength shifter comprising an intermediate waveguide structure coupled to a second waveguide structure capable of wavelength shifting at least one wavelength of the first optical signal to an intermediate wavelength in the intermediate waveguide structure and then a longer signal wavelength in

the second waveguide structure. Moreover, *Samson* fails to teach or suggest that at least a portion of the intermediate wavelength is greater than the one wavelength of the first optical signal and wherein at least a portion of the longer signal wavelength is greater than the intermediate wavelength. Consequently, *Samson* fails to teach or suggest amended Claim 1.

For at least these reasons, Applicant submits that *Fermann* and/or *Samson*, taken alone or in combination, fail to teach or suggest amended Claim 1. Applicant respectfully requests withdrawal of the rejection and full allowance of independent Claim 1 and all claims depending therefrom.

Applicant submits that amended independent Claim 29 is patentable over *Fermann* in view of *Samson* for reasons analogous to those discussed above. Thus, Applicant respectfully requests withdrawal of the rejection and full allowance of amended Claim 29 and all claims depending therefrom.

#### **B. The Proposed *Fermann-Samson* Combination is Improper**

The rejection of Applicant's claims is also improper because the Examiner has not shown the required teaching, suggestion, or motivation in *Fermann*, *Samson*, or in the knowledge generally available to those of ordinary skill in the art at the time of the invention to combine or modify the *Fermann* or *Samson* references in the manner the Examiner proposes. The rejected claims are allowable for at least this additional reason.

##### **1. The Obviousness Standard**

The question raised under 35 U.S.C. § 103 is whether the prior art taken as a whole would suggest the claimed invention taken as a whole to one of ordinary skill in the art at the time of the invention. Accordingly, even if all elements of a claim are disclosed in various prior art references, which is certainly not the case here as discussed above, the claimed invention taken as a whole cannot be said to be obvious without some reason given in the prior art why one of ordinary skill at the time of the invention would have been prompted to modify the teachings of a reference or combine the teachings of multiple references to arrive at the claimed invention. It is clear based at least on the distinctions discussed above that the proposed *Fermann* and *Samson* combination does not, taken as a whole, suggest the claimed invention. Respectfully, it appears to Applicant that the Examiner has *merely pieced*

***together disjointed portions of references, with the benefit of hindsight using Applicant's claims as a blueprint, in an attempt to reconstruct Applicant's claims.***

The governing Federal Circuit case law makes this strict legal standard clear.<sup>1</sup> According to the Federal Circuit, “a showing of a suggestion, teaching, or motivation to combine or modify prior art references is an essential component of an obviousness holding.” *In re Sang-Su Lee*, 277 F.3d 1338, 1343, 61 U.S.P.Q.2d 1430, 1433 (Fed. Cir. 2002) (quoting *Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1124-25, 56 U.S.P.Q.2d 1456, 1459 (Fed. Cir. 2000)). “Evidence of a suggestion, teaching, or motivation . . . may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, the nature of the problem to be solved.” *In re Dembiczak*, 175 F.3d 994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). However, the “range of sources available . . . does not diminish the requirement for actual evidence.” *Id.* ***Although a prior art device “may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so.”*** *In re Mills*, 916 F.2d at 682, 16 U.S.P.Q.2d at 1432 (emphasis added). *See also In re Rouffet*, 149 F.3d 1350, 1357, 47 U.S.P.Q.2d 1453, 1457-58 (Fed. Cir. 1998) (***holding a prima facie case of obviousness not made where the combination of the references taught every element of the claimed invention but did not provide a motivation to combine***); *In Re Jones*, 958 F.2d 347, 351, 21 U.S.P.Q.2d 1941, 1944 (Fed. Cir. 1992) (“Conspicuously missing from this record is any evidence, other than the PTO’s speculation (if that can be called evidence) that one of ordinary skill in the herbicidal art would have been motivated to make the modification of the prior art salts necessary to arrive at” the claimed invention.). Even a determination that it would have been obvious to one of ordinary skill in the art at the time of the invention to try the proposed modification or combination is not sufficient to establish a *prima facie* case of obviousness. *See In re Fine*, 837 F.2d 1071, 1075, 5 U.S.P.Q.2d 1596, 1599 (Fed. Cir. 1988).

In addition, the M.P.E.P. and the Federal Circuit repeatedly warn against using an applicant's disclosure as a blueprint to reconstruct the claimed invention. For example, the M.P.E.P. states, ***“The tendency to resort to 'hindsight' based upon applicant's disclosure is often difficult to avoid due to the very nature of the examination process. However,***

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<sup>1</sup> Note M.P.E.P. 2145 X.C. (“The Federal Circuit has produced a number of decisions overturning obviousness rejections due to a lack of suggestion in the prior art of the desirability of combining references.”).

*impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art.*” M.P.E.P. § 2142 (emphasis added). The governing Federal Circuit cases are equally clear. “A critical step in analyzing the patentability of claims pursuant to [35 U.S.C. § 103] is casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. . . . Close adherence to this methodology is especially important in cases where the very ease with which the invention can be understood may prompt one ‘to fall victim to the insidious effect of a hindsight syndrome *wherein that which only the invention taught is used against its teacher.*’” *In re Kotzab*, 217 F.3d 1365, 1369, 55 U.S.P.Q.2d 1313, 1316 (Fed. Cir. 2000) (citations omitted; emphasis added). In *In re Kotzab*, the court noted that to prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the examiner to show a motivation to combine the references that create the case of obviousness. *See id.* *See also, e.g., Grain Processing Corp. v. American Maize-Products*, 840 F.2d 902, 907, 5 U.S.P.Q.2d 1788, 1792 (Fed. Cir. 1988). Similarly, in *In re Dembiczak*, the Federal Circuit reversed a finding of obviousness by the Board, *explaining that the required evidence of such a teaching, suggestion, or motivation is essential to avoid impermissible hindsight reconstruction of an applicant’s invention:*

Our case law makes clear that the best defense against the subtle but powerful attraction of hind-sight obviousness analysis is *rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references*. Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability—the essence of hindsight.

175 F.3d at 999, 50 U.S.P.Q.2d at 1617 (emphasis added) (citations omitted; emphasis added).

## 2. Argument

According to the Examiner, it would have been obvious to a person of skill in the art at the time the invention was made to combine the teachings of *Arthurs ‘167* or *Arthurs ‘681*, with one or more of *Fermann* and *Samson* references. The Examiner provides essentially no support in the *Fermann* and *Samson* references for these assertions. Applicant respectfully

submits that the Examiner's assertion that it would have been obvious to modify the teachings of *Fermann* with *Samson* to purportedly arrive at Applicant's invention is entirely insufficient to support a *prima facie* case of obviousness under 35 U.S.C. § 103(a) under the M.P.E.P. and the governing Federal Circuit case law. Consequently, the Examiner has not demonstrated the requisite teaching, suggestion, or motivation in either of the reference or in the knowledge that is supposedly generally available to one of ordinary skill in the art at the time of Applicant's invention to combine or modify these references in the manner the Examiner proposes.

It appears that the Examiner is merely proposing alleged advantages of modifying *Fermann* with *Samson* (advantages which Applicant does not admit could even be achieved by combining these references in the manner the Examiner proposes). While the Examiner has cited portions of *Fermann* and *Samson* the Examiner has not pointed to any portions of the cited references or to knowledge supposedly generally available to those of ordinary skill in the art at the time of the invention that would teach, suggest, or motivate one of ordinary skill in the art at the time of invention to modify the system disclosed in *Fermann* as suggested by the Examiner. Indeed, if it were sufficient for Examiners to merely point to a purported advantage and conclude that it would have been obvious to combine or modify that reference with other references simply based on that advantage (which, as should be evident from the case law discussed above, it certainly is not), then virtually any two references would be combinable just based on the fact the one reference states an advantage of its system. Of course, as the Federal Circuit has made clear and as discussed above, that is not the law.

It certainly would not have been obvious to one of ordinary skill in the art at the time of invention *to even attempt* to, let alone *to actually*, modify or combine the system disclosed in *Fermann* with *Samson* in the manner proposed by the Examiner. Applicant respectfully submits that the Examiner's attempt to modify or combine *Fermann* with *Samson* appears to constitute the type of impermissible hindsight reconstruction of Applicant's claims, using Applicant's claims as a blueprint, that is specifically prohibited by the M.P.E.P. and governing Federal Circuit cases.

Accordingly, since the prior art fails to provide the required teaching, suggestion, or motivation to modify *Fermann* in the manner the Examiner proposes, Applicant respectfully submits that the Examiner's conclusions set forth in the Office Action do not meet the requirements set forth in the M.P.E.P. and the governing Federal Circuit case law for demonstrating a *prima facie* case of obviousness. Applicant respectfully submits that the rejection must therefore be withdrawn.

#### **D. Conclusion**

For at least these reasons, Applicant respectfully requests reconsideration and allowance of independent Claims 1 and 29, and claims depending therefrom.

#### **No Waiver**

All of Applicant's arguments and amendments are without prejudice or disclaimer. Additionally, Applicant has merely discussed example distinctions from the *Fermann* and *Samson* references. Other distinctions may exist, and Applicant reserves the right to discuss these additional distinctions in a later Response or on Appeal, if appropriate. By not responding to additional statements made by the Examiner, Applicants do not acquiesce to the Examiner's additional statements. The example distinctions discussed by Applicant are sufficient to overcome the anticipation and obviousness rejections.

**CONCLUSION**

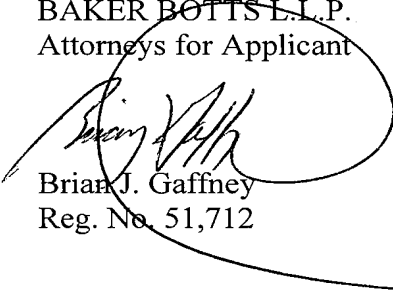
Applicant has made an earnest attempt to place this case in condition for allowance. For the foregoing reasons and for other reasons clearly apparent, Applicant respectfully requests reconsideration and full allowance of all pending Claims.

Although Applicant believes no fee is due, the Commissioner is hereby authorized to charge any fee or credit any overpayment to Deposit Account No. 02-0384 of Baker Botts L.L.P.

If the Examiner feels that a conference would advance prosecution of this Application in any manner, Brian J. Gaffney stands willing to conduct such a telephone interview at the convenience of the Examiner. Mr. Gaffney may be reached at 214-953-6682.

Respectfully submitted,

BAKER BOTTS L.L.P.  
Attorneys for Applicant

  
Brian J. Gaffney  
Reg. No. 51,712

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Customer No.

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